lowercase terms represent direction of the induced spin echo signals in a rotating frame of reference.

[c39]

The method as recited in claim 31, wherein the first RF pulse sequence comprises a plurality of inversion pulses arranged in a repeating phase pattern, and wherein the repeating phase pattern is three inversion pulses arranged to induce a pattern of three spin echo signals in accordance with the following:

$$+\mathbf{Y}_1(+y_1)+\mathbf{Y}_2(+y_2)-\mathbf{Y}_3(+y_3)$$

wherein the bold uppercase terms represent direction of the inversion pulses, and the italicized lowercase terms represent direction of the induced spin echo signals in a rotating frame of reference.

[c40]

The method as recited in claim 31, comprising computing a first reconstructed signal and a second reconstructed signal from the corrected signal, the first and second reconstructed signals representative of the respective spin echo components of the first and second signals of the acquired sequence.

Abstract of Disclosure

[0071] A method of reducing ringing artifacts in a nuclear magnetic resonance measurement is provided. The method utilizes a new pulse sequence that offers ringing cancellation opportunities as well as compensation for otherwise accumulating spin dynamics errors. Ringing cancellation is accomplished by forming linear combinations of spin echoes induced as a result of the pulse sequence. Because the linear combinations are formed between closely spaced spin echoes (i.e., echoes within the same sequence), the likelihood that the ringing artifact will have changed between measurements is diminished.

Figures